

a heat sink having a first surface, a second surface opposed to the first surface, and a plurality of side surfaces interconnecting the first surface and the second surface, wherein the first surface of the heat sink is attached to the chip for interposing the chip between the chip carrier and the heat sink;

an interface layer formed on the second surface of the heat sink, and made of a material having adhesion with a molding compound smaller than adhesion between the heat sink and the molding compound, wherein the interface layer covers the entire second surface of the heat sink; and

an encapsulant made of the molding compound for encapsulating the chip, heat sink and the chip carrier, wherein the interface layer and the side surfaces of the heat sink are exposed to outside of the encapsulant, and the side surfaces of the heat sink are flush with side edges of the encapsulant;

whereby due to relatively smaller adhesion between the interface layer and the molding compound for making the encapsulant, the molding compound remaining on the interface layer during formation of the encapsulant can be removed easily from the interface layer, so as to make the semiconductor package free of flash of the molding compound.

3. (Amended) The semiconductor package of claim 1, wherein the material for making the interface layer on the second surface of the heat sink is selected from the group consisting of gold, chromium, nickel, alloy thereof and Teflon (polytetrafluoroethylene).

10. (Amended) The semiconductor package of claim 1, wherein at a position on the first surface of the heat sink corresponding to the chip there is formed a connecting portion extending toward the chip for connecting the heat sink to the chip through the connecting portion, and the first surface of the heat sink other than the position of the connecting portion is spaced apart from the chip.

12. (Amended) A semiconductor package with a heat sink, comprising:
a chip carrier;